



Mocom Concaved Screen – Solstice Series

Assembly / Installation Guide

Please read the rules and instructions carefully.



Caution!

The following information should be thoroughly understood before you start assembling the product.

- The screen surface is vulnerable to external shocks; attention is required when you set it down on the floor. (Please note that a strong external shock may affect or damage the screen and the screen curvature.)
- Please check all components (bolts, nuts, washers, brackets and the screen).
- Select a proper area (indoors) for assembly.
- Remove items from your top pocket to prevent them from falling out and onto the screen surface.
- Gently pull the plastic covering of the screen to one side. Do not attempt to apply force with your hands or a knife. If possible, two or more people may be required: one person to hold the screen horizontally and others to pull the plastic aside. The screen can be placed vertically.
- Note that there are side handles on some models. Please use them to ensure the screens are handled correctly.
- While assembling, lean the screen surface on the wall in a safe area to prevent damage.
- Do not touch the screen surface. (The screen surface can be scratched or finger-marked.)
- Do not touch the screen surface with hard objects.
- Do not use alcohol, acetone, organic solvents and other strong cleaning agents to remove dirt or debris from the screen surface, as this may damage the surface. When cleaning is needed, wipe any dust from the screen surface with a static-free cloth or brush, or use a dryer on a cold-air setting.
- Place a screen cover over the screen when not in use.
- Place the screen back in the carton face-down.
- The caster lock wheels must be in a locked position when stationary or aligned.
- Never move the screen together with the floor stands. Always disassemble the screen before you move it.

If you have any questions regarding proper assembly, contact your dealer or representative.

Installation Method by Screen Model

- MDW-105/125/135
EPDM black frame (22.5mm width) with molded back panel
- MDW-105S/125S/135S
EPDM black-**slim** frame (10.5mm width) with molded back panel
- DHS-105/125/135
Black velvet-finished aluminum frame (50mm width) with molded back panel
- DHS-105N/125N/135N
Black velvet-finished aluminum frame (55mm width) with slim molded back panel
- MDW-155/175/200/220/250
Black steel frame (25mm width) front and back steel squared pipe frame (without molded back panel)

Model	Wall-Hook type	Wall-Hanger type	Floor Stand
S3D-82	WH	OW-1	OS-1
MDW-105/105S/DHS-105		OW-2	OS-2
MDW-125/125S/DHS-125		OW-3	OS-3
MDW-135/135S/DHS-135		OW-3	OS-4
DHS-105N	X	NW	NS-1
DHS-125N	X		NS-2
DHS-135N	X		NS-3
MDW-155/175/200/220/250	Anchoring on the wall		"A" Type

WALL MOUNTING

Wall-Hook Type (WH Model)

(For: S3D-82, MDW-105/125/135, MDW-105S/125S/135S, DHS-105/125/135)

- This wall-hook type is used when the projector is installed on a ceiling with a low height and at a place where only a limited adjustment angle of the screen is allowed.
- The advantage of using this type is a short separation distance between the wall and the screen. Note that the position of the screen is fixed.
- It cannot be used when a projector is positioned on a tabletop because the angle toward the top adjustment is limited.
- Supplied accessories include the following.

(1) Hook Brackets on top: 2 ea



(2) Screen Angle Adjuster on bottom: 2 ea





(3) Wall Brackets on top of wall side: 2 ea



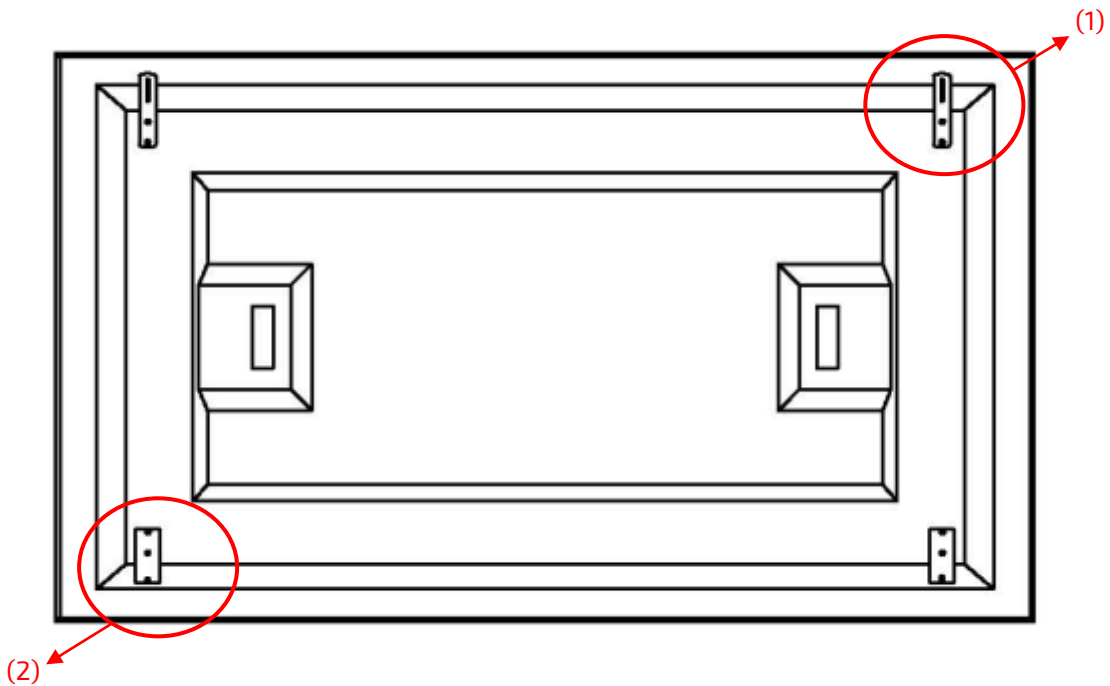
- Accessories not included:

For (3) Wall Brackets

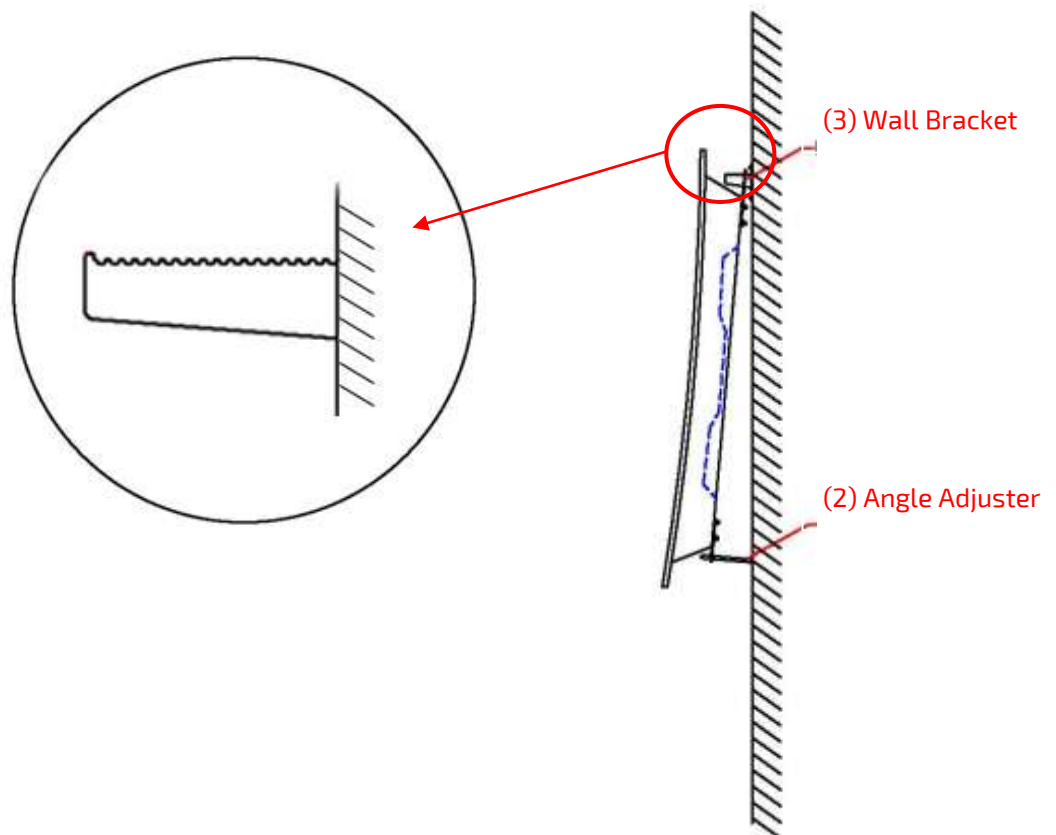
For concrete wall		For wood wall	
Anchor bolts		Screws	
M6 / 8 – 12 units		8 – 12 units	

- Installation of Wall-Hook Type

- i. Attach the (1) Hook Brackets and (2) Angle Adjuster to the screen body.
(1) Hook Bracket can be pre-assembled)



- ii. Fix the (3) Wall Bracket onto the wall with screws or anchor bolts according to the installation height of the screen (the saw blade situated upwards).
- iii. Put the upper part of the screen on (3) Wall Bracket.
- iv. Adjust the angle of the upper part of the screen to obtain the optimal brightness and fix the (2) Angle Adjuster (go to page 15).



Wall-Hanger Type (OW-1/2/3)

(For: S3D-82, MDW-105/125/135, MDW-105S/125S/135S, DHS-105/125/135)

- This type of wall hanger is used when the projector is installed on a tall ceiling or on a tabletop.
- It is attached to a location that has adequate space to adjust the screen's angle.
- Note that the separation distance between the wall and the screen is large, which allows the screen to move slightly left and right into its position.
- Supplied accessories include the following.

- (1) **Hanger** at screen side: 2 ea
- (2) **Wing Nuts**: 6 ea



- (3) Screen **Angle Adjuster** on bottom (the wall side):
1 ea or 2 ea




- (4) **Hanger Bracket** on the wall side: 1 ea





- Accessories not included:

For (3) **Angle Adjuster**

For wood wall	
Screws	
2 units	

For (4) **Hanger Bracket**

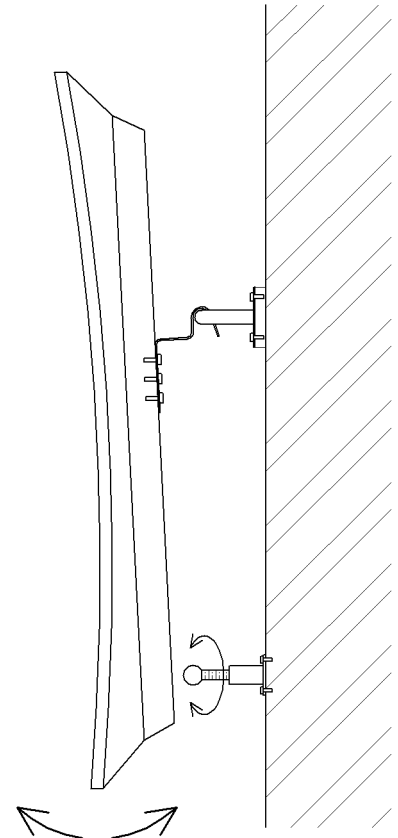
For concrete wall		For wood wall	
Anchor bolts		Screws	
M6 / 4 units		4 units	

- Installation of Wall-Hanger Type (OW-1,2,3)

- ① Attach the (1) Hanger to the screen body using (2) Wing Nuts.
- ② Install the (4) Hanger Bracket on the wall using anchor bolts or screws, setting it 6 inches higher than the horizontal axis of the screen.
- ③ Set the (3) Angle Adjuster on the wall using a screw. (The angle adjuster can be disassembled; there is a hole in the angle adjuster and you can use a screw to attach it to the wall) 20~30 inches below the hanger



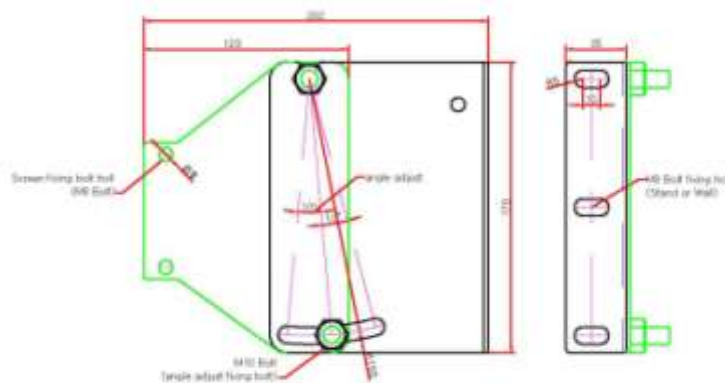
- ④ Put the screen on the (4) Hanger Bracket.
- ⑤ Adjust the angle of the screen to obtain the optimal brightness and fix it with the (3) Angle Adjuster (go to page 15).



Wall-Hanger Type for DHS - 105N/125N/135N (NW)



(For: DHS-105N/125N/135N)

- This model (DHS-XXXN) screen is for a home theater; its frame has a black velvet finish on aluminum. With its thin back panel, it has excellent design. The black velvet-finished portion absorbs a video image exceeding a margin.
- The projector can either hang from a ceiling or rest on a tabletop.
- Though the separation distance between the wall and the screen is small, the installation position of the wall bracket is fixed.
- Supplied accessories include the following:
 - (1) Hanger at screen side: 2 ea
 - (2) Hanger Bracket at wall side: 2 ea



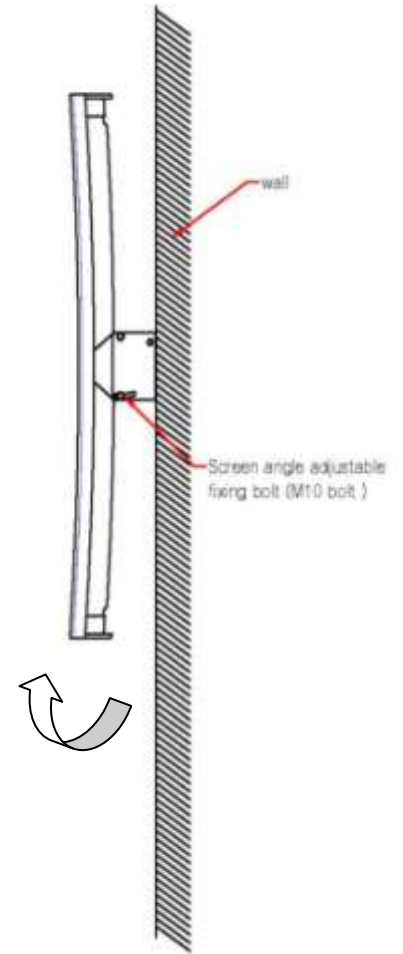
- Accessories not included:

For (2) Hanger Bracket

For concrete wall		For wood wall	
Anchor bolts		Screws	
M6 / 4-6 units		4-6 units	

- Installation of Wall-Hanger Type (NW)

- ① Attach the (1) Hanger to the screen body.
- ② Fix the (2) Hanger Bracket on the wall using anchor bolts or screws.
- ③ Adjust the angle of the screen to obtain the optimal brightness and fix it tightly (go to page 15).

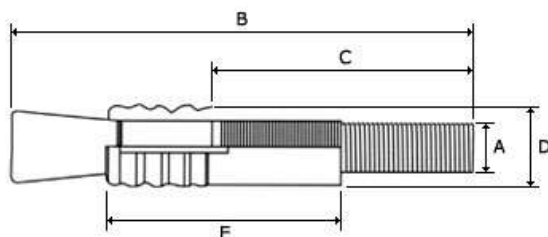


Wall Mounted by Anchoring on the Wall

(For MDW-155/175/200/220/250)

- For models with a large screen there is no back panel but, instead, supports with a steel frame. The screen cannot be installed in the same manner as with a wall bracket.
- Anchor the screen directly to a wall surface and adjust the angle based on the anchor's length.
- **Prepare...**
 - 1) Heavy-duty anchor bolts and nuts (M10 and M12 are preferable) –

It is recommended that you use at least 4 to 6 units. Choose the length of the bolt depending on the angle adjustment of the screen. (Use longer anchor bolts for larger-angle adjustments).

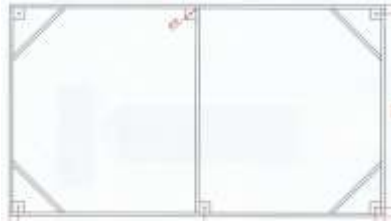


Size (A)	Cap Length (E)	Anchor Length(B)	Thread of the Screw (C)	Drill Bit Diameter (D) (mm)	Anchor Perforation Depth (mm)	Proof Weight (kgf)
3/8"(M10)	40	3"(75mm)	45	14	44	2300
		4"(100mm)	70			
		5"(125mm)	85			
		6"(150mm)	100			
		8"(200mm)	150			
		10"(250mm)	180			
		12"(300mm)	230			
1/2"(M12)	50	4"(100mm)	60	17	55	3200
		5"(125mm)	75			
		6"(150mm)	100			
		8"(200mm)	150			
		10"(250mm)	180			
		12"(300mm)	230			

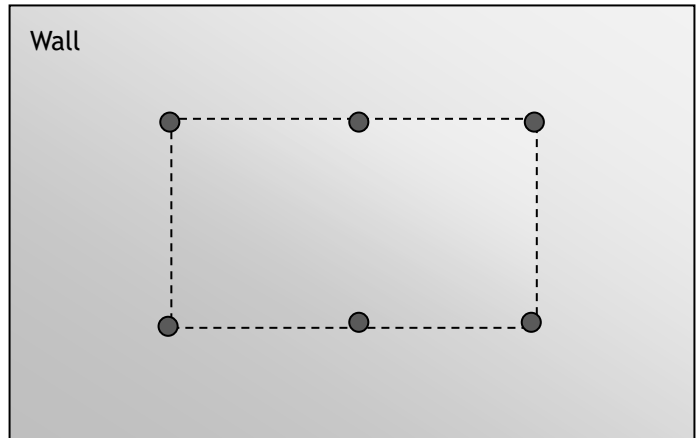
- 1) Electric (concrete) hand drill - 1
- 2) Hammer drill - 1
- 3) Ruler - 1
- 4) Spanner - 2
- 5) Scaffolding - 1, if necessary
- 6) Chain block (0.5 ton) - 2
- 7) Aluminum ladder - 1

- Installation

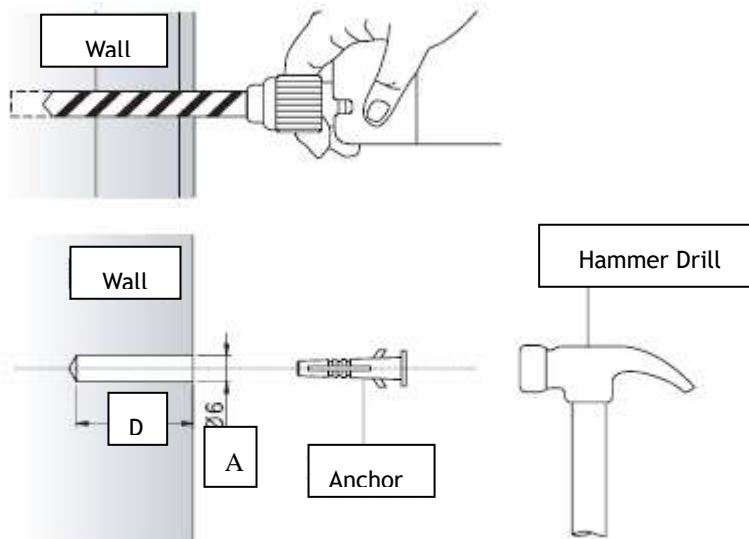
- 1) Determine the anchor bolt locations and mark where you will anchor it.



Rear side of the screen



- 2) Drill holes for the anchor bolts.



- 3) Place the anchor bolt into the cement wall.
- 4) Lift the screen with the chain block or other equipment.
- 5) Insert the screen into the pre-installed anchor bolts.
- 6) Insert the anchor nut smoothly.
- 7) Adjust the screen angle by adjusting the anchor nut length (go to page 15).
- 8) Tighten the anchor nuts after determining the screen angles.

- The length of the anchor must be sufficient to adjust the angle.
- To prevent damage, cover the screen's surface and do not touch the surface during installation.

FLOOR STAND

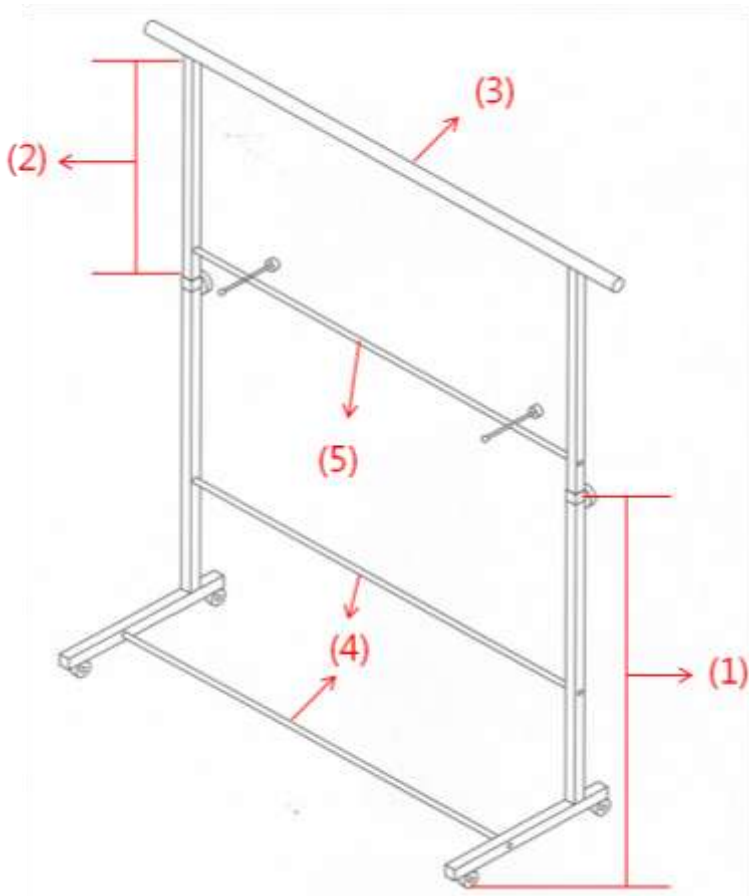
A. Floor Stand for MDW/DHS Series (OS-1,2,3,4)

(For: S3D-82, MDW-105/125/135, MDW-105S/125S/135S, DHS-105/125/135)

- This is used when the screen cannot be installed on a wall or when it is installed on the floor as a movable screen.
- Supplied accessories include the following.
 - (1) Stand Lower Part: 2 ea
 - (2) Support Square Pipe: 2 ea
 - (3) Top Part: 1 ea
 - (4) Horizontal Support Round Pipe with Screw and Washer: 2 ea
 - (5) Horizontal Support Round Pipe with Screen Angle Adjust Knob: 1 ea

● Installation

- ① Assemble the (1) Stand Lower Part with the (4) Horizontal Support Round Pipe with Screw and Washer.
- ② Attach the (2) Support Square Pipe to the assembled (1) Stand Lower Part.
- ③ Attach the (5) Horizontal Support Round Pipe with Screen Angle Adjust Knob to the assembled (2) Support Square Pipe.
- ④ Attach the (3) Top Part to the (2) Support Square Pipe.
- ⑤ Adjust the (2) Support Square Pipe based on the installation height of the screen and fix it tight.
- ⑥ Attach the assembled screen to the Wall-Hanger type with the (3) Top Part.
- ⑦ Adjust the angle of the screen with the (5) Horizontal Support Round Pipe with Screen Angle Adjust Knob.



- ⑧ Pay attention to prevent damage to the screen surface during the above-described assembly. Cover the screen with nonwoven cloth.
- ⑨ A stand frame appropriate for a screen model must be used. Secure the caster in the (1) **Stand Lower Part** (go to page 15).

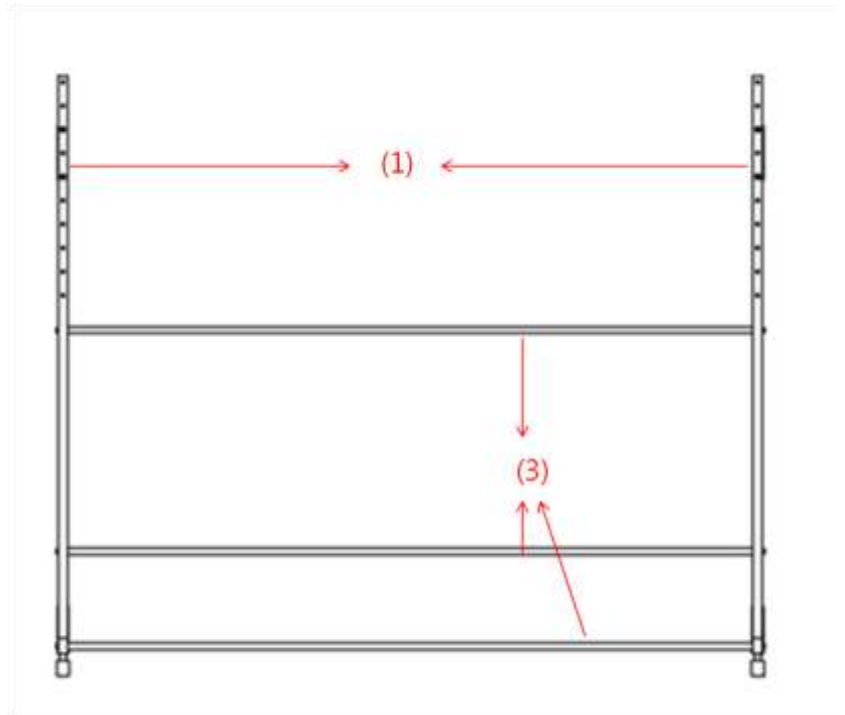
B. Floor Stand Frame for DHS-105N/125N/135N Series

(For: DHS-105N/125N/135N)

- This is used when the screen cannot be installed on a wall or when it is installed on the floor as a movable screen.
- This is applied to the DHS-xxxN series.
- Supplied accessories include the following.
 - (1) **Vertical Main Stand Frame**: 2 ea
 - (2) Screen angle and height **Adjustment Hook**: 2 ea
 - (3) **Horizontal Support Round Pipe** with screw and washer: 3 ea

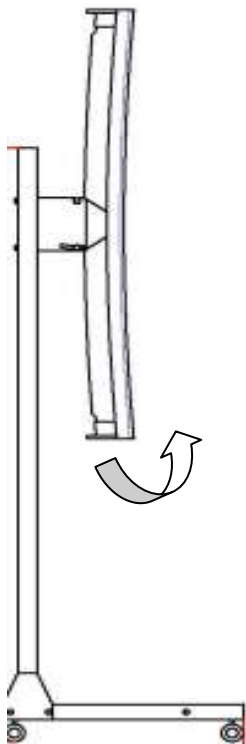
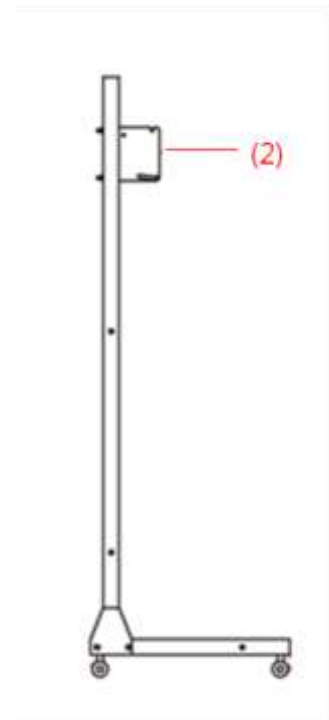
1) **Installation**

- ① Assemble the (1) **Vertical Main Stand Frame** using the (3) **Horizontal Support Round Pipe**.



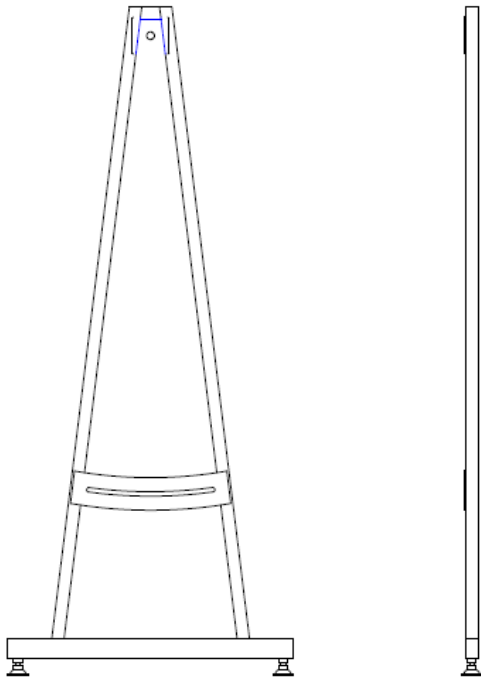
② Attach the (2) Adjustment Hook to the assembled (1) Vertical Main Stand Frame.

③ Set a height for the (2) Adjustment Hook based on the installation height of the screen.



- ④ Lift the screen and connect it to the (2) Adjustment Hook.
- ⑤ Adjust and secure the angle of the screen by adjusting the nut of the (2) Adjustment Hook (see page 15).
- ⑥ Pay attention to prevent damage to the screen surface during the above-described assembly. Cover the screen with nonwoven cloth.
- ⑦ A stand frame appropriate for the screen model must be used. Secure the caster in the (1) Vertical Main Stand Frame.

C. Floor Stand Frame of "A" type for MDW-155/175/200/220/250



* The size of the floor stand can vary depending on the model and the customer's needs.

D. Custom fabrication for installation can be provided when...

- 1) None of the above methods is applicable.
 - 2) Installation will be done on a corner, not a flat wall.
 - 3) Hanging with a wire rope is required.
 - 4) Installation will occur on an access wall.
- Prior consultation is required.

Adjustment of the screen angle

The Mocom Solstice™ concave screen is a precision product which requires proper set up procedures for maximum brightness. For the first few times we suggest that you place yourself in the audience's prime viewing vantage point to ensure that the angle is set to its brightest position. If the screen angle is not set correctly, a substantial amount of image brightness will be lost. Then finish adjusting the zoom, focus and keystone alignment of the projector.

Points to note

- It is preferable that you do not have a large window directly opposite the screen. The screen will not be able to distinguish between two light sources (the projector's light and the light from the window) and will reflect them both. The off-axis ambient light rejection of these screens is astonishingly high. This is a particularly important factor in ceiling mounting projector installations. Therefore, if an open window is behind the projector, install the projector on a tabletop, which will provide a better result than installing the projector near the window. These comments are provided as a guide only; onsite conditions will determine the result and should be evaluated each time.
- If possible, dim the lights near the screen for a better result.

Standard procedure

- 1) Select a projector with the appropriate brightness performance.
- 2) Select the position of the screen.
- 3) Calibrate the distance between the screen and the projector.
- 4) Ensure there is space for adjusting the angles of the screen up and down.



◆ Chart 1) Optimized Projection Distance Chart of Solstice™ Screen

Size	82	90-125	130-147	155-250
Screen Model	S3D-82	MD-92/103/112, MDW-105/125, DHS-105/125	MD-130/147 MDW-135 DHS-135	MDW-155/175/ 200/220/250
Mimumum Projection Distance	3.7 M (12ft.)	4.5 M (15ft.)	6 M (20ft.)	8 M (26ft.)

Screen alignment

Have your assistant stand in the audience position with the projector on and any image being projected on the screen for testing. Loosen the left-hand black knob; hold the side handle and slowly tilt the screen backward and then forward; tilt it to its optimal position.

You may need to do this a few times so that your assistant becomes familiar with the change in brightness as the screen travels through the arc swivel positions. As you tilt the screen, there will be a perfect position in which maximum brightness is achieved. If you are trying out the screen from a standing-up position, your assistant should be standing upright at the intended viewing position. If your clients will be sitting down, you should be at the eye height at which they will be sitting. When your assistant confirms the brightest angle, tilt the screen forward a fraction if the projector is in a tabletop position or backward if it is in ceiling mode. At this point, tighten the black knob. The fractional adjustment is to compensate for the weight of the screen as you transfer the support from yourself (holding it) to the locking knob.

When the screen is installed on the wall

- 1) If you must install the screen first due to interior wiring, pre-installation is required because angle adjustment is not possible. After pre-installation of the screen, install the projector and

have images projected onto the screen. Then adjust the angle. Otherwise, the brightness and resolution can dramatically decrease in quality.

- 2) For screen angle adjustment, tilt the screen up and down several times while the video of the projector is turned on. Stop tilting where the brightest and clearest image for the viewer is achieved. Secure the position by using the angle adjuster or the anchor nut (for MD-147 or more).

(Note: Because viewers, in the case of churches and pulpits, can be positioned either downstairs or upstairs, as well as in other places, check the up, down, left, and right angles of the screen when viewed upstairs.)

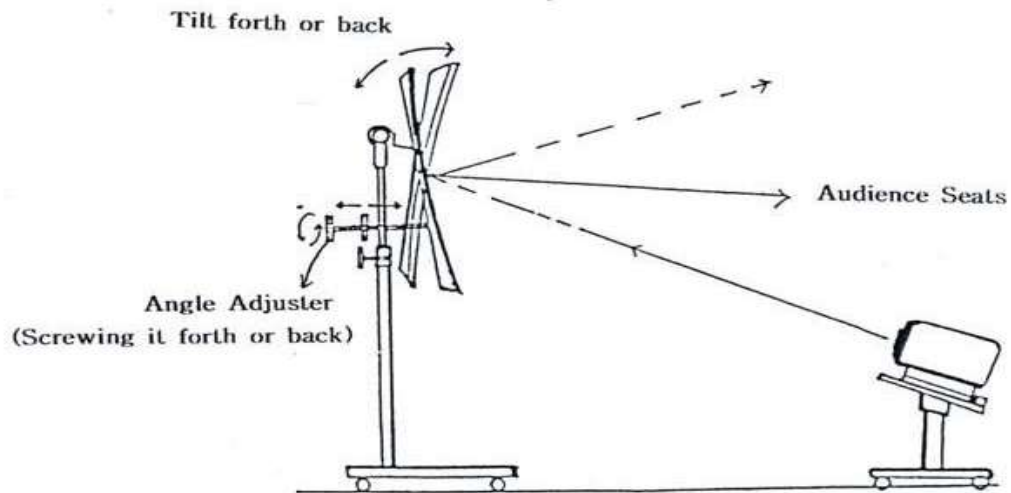


(You can adjust the angle by controlling the length of the Angle Adjuster.)

- 3) By watching while repeatedly sitting and standing in the viewer's position, you can check on whether there are any variations in the screen brightness. If there are variations, repeat the instructions of paragraph 2 above. When you are satisfied, secure the screen.

When the screen is installed using a floor stand

- 1) Place the screen at a projection distance that optimizes the image (see the chart).
- 2) Tilt the screen up and down several times while the video of the projector is turned on. Stop tilting when the screen is brightest at the viewer's position and secure the screen with the Angle Adjuster.



- 3) By watching while repeatedly sitting and standing in the viewer's position, you can check on whether there are any variations in the screen brightness. If there are variations, repeat the instructions of paragraph 2 above. When you are satisfied, secure the screen with the Angle Adjuster.
- 4) With a long projection distance, an image is larger than the screen. Either the screen or the projector must be moved to match the screen. If an image is projected so that it displays smaller than the screen, increase the distance to ensure that the screen is filled.